



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,014	02/12/2002	Toshimichi Shintani	501.41179X00	5079

20457 7590 10/27/2003

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-9889

EXAMINER

BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT	PAPER NUMBER
----------	--------------

1775

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,014

Applicant(s)

SHINTANI ET AL.

Examiner

Gwendolyn A. Blackwell-Rudasill

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11-19 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. While Applicant has indicated on page 7-lines 4-6 what the i-layer and the j-layer could be, Applicant has not indicated what the respective layers should be in the claims because the i-layer and the j-layer can be the same thing. That which is critical or essential to the practice of the invention, but not included in the claim is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The identity of the i-layers and j-layers ^{is} ~~are~~ important. As written, the language of claim 1 does not distinguish where the layers should be in relation to each other and their function. Applicant has set forth that the i-layer and j-layer could be a lower or upper protective layer, a recording layer, a nonlinear optical layer or a reflective layer, however it is unclear what each is supposed to represent in the claim. Further clarification is needed as to what the individual layers should be in relation to one another that allows one to make an information recording medium that satisfies the expression regarding the light transmittance in relation to the i and j values.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 5,764,619, Nishiuchi et al.

Nishiuchi et al disclose an optical recording medium having two recording layers. The second information layer has a layer structure wherein there is a reflecting layer/ a first dielectric layer/ a recording layer/a second dielectric layer that are laminated onto a second substrate. The first information recording layer has a layer structure wherein there is a first dielectric layer/a recording layer/ a second dielectric layer that are laminated on to a first substrate, meeting the requirements of claims 1-2, (column 3, lines 42-67).

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant's claimed high/low high refractive dielectric film structure, the claimed physical property relating to the transmittance is inherently present in the prior art. Absent an objective evidentiary showing to the contrary the addition of the physical property to the claim language fails to provide patentable distinction over the prior art.

Furthermore, the limitation of claim 1, line 4, states "when light is focused on the recording film" which is not a positive recitation. As claimed, in order for the expression to be

Art Unit: 1775

valid a light must be focused. As such, it is being interpreted that having a structure with more than two recording films provided on a substrate would satisfy claim 1 before light is focused on the recording film.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3-7 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 5,764,619, Nishiuchi et al as applied to claim 1 above, and further in view of United States Patent no. 5,738,973, Abe further in view of United States Patent no. 4,839,226, Sawada et al.

Nishiuchi et al disclose the limitations of claim 1 above. Nishiuchi et al also disclose phase transition materials that change between crystal and amorphous states that can be magneto-optic materials, (column 14, lines 52-63). Nishiuchi et al do not specifically disclose that a nonlinear optical layer is added to the recording medium.

Abe discloses an optical information recording medium composed of a substrate, an auxiliary layer, and a recording layer in that order, (column 6, lines 58-63). The materials for the auxiliary layers, whose transmittance changes with the energy of an incident light, can be thermochromic materials, photochromic materials, and phase transition materials having a thickness of 5-500 nm. Triphenylmethane dyes can be added to the auxiliary layer, (columns 7-8, lines 58-34). In addition, the transmittance of the auxiliary layer returns to what it was before irradiation. Because of the function of the auxiliary layer it is being held analogous to the nonlinear layer as disclosed by Applicant. Abe does not specifically disclose that the phase transition material can be a metal, semiconductor, or magnetic.

Sawada et al disclose a magneto-optical recording medium wherein the magnetic oxide layer can be magnetoplumbite type ferrites, garnet type magnetic oxides, or cobalt spinel type oxides, (column 4, lines 5-39).

Nishiuchi et al, Abe and Sawada et al disclose inventions related to recording mediums. Nishiuchi et al utilizes a two or more recording layer structure while Abe and Sawada et al use a one layer recording layer structure. Although Abe discloses a one recording layer structure that is either a recording or reproducing structure, it would have been obvious to one skilled in the art to modify the dual layer structure of Nishiuchi et al with the auxiliary layer of Abe to create a recording medium that records information or reproduced information with a higher resolution

Art Unit: 1775

than that attained by conventional methods, (Abe, column 8, lines 35-50). Furthermore, as disclosed by Nishiuchi et al that magneto-optic materials are phase transition materials and in light of the disclosure by Abe that phase transition materials can be used as the auxiliary layer, it would have been obvious to one skilled in the art to modify the Nishiuchi et al/Abe invention with the magnetic oxide film of Sawada et al to create a recording medium increase accurate tracking and high C/N, (Sawada et al, column 3, lines 15-20). In addition, the use of an auxiliary layer serves to increase the recording density, (Abe, column 6, lines 52-57). It would also be within the skill of one in the art to determine through routine experimentation optimal placement of the auxiliary layer in the recording medium to obtain the highest recording density.

Allowable Subject Matter

8. Claims 8-10 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record do not teach or suggest having a nonlinear layer structure made of at least to layers of material or the nonlinear material being next to metal or a semiconductor material.

Response to Arguments

9. Applicant's arguments filed August 7, 2003 have been fully considered but they are not persuasive with a regards to the 35 U.S.C. 112, first paragraph. Applicant has not indicated how the i and j layers should be layered in relation to one another. Understanding that the layers are

Art Unit: 1775

not the same, the claims do not indicate how to layer the structure the of the recording medium to satisfy the transmittance expression.

Applicant's arguments with respect to claims 1-7 and 11-19 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments, see page 9, third paragraph, filed August 7, 2003, with respect to claims 8-10 have been fully considered and are persuasive. The 102(b) of claims 8-10 has been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn A. Blackwell-Rudasill whose telephone number is (703) 305-9741. The examiner can normally be reached on Monday - Thursday; 6:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gwendolyn A. Blackwell-Rudasill
Examiner
Art Unit 1775

GBR
gbf


DEBORAH JONES
SUPERVISORY PATENT EXAMINER